General Arrangement Plan
New York S.B. Corp
Hull 261. S.S. "Empire Arrow"
No. 4238

Transferred to

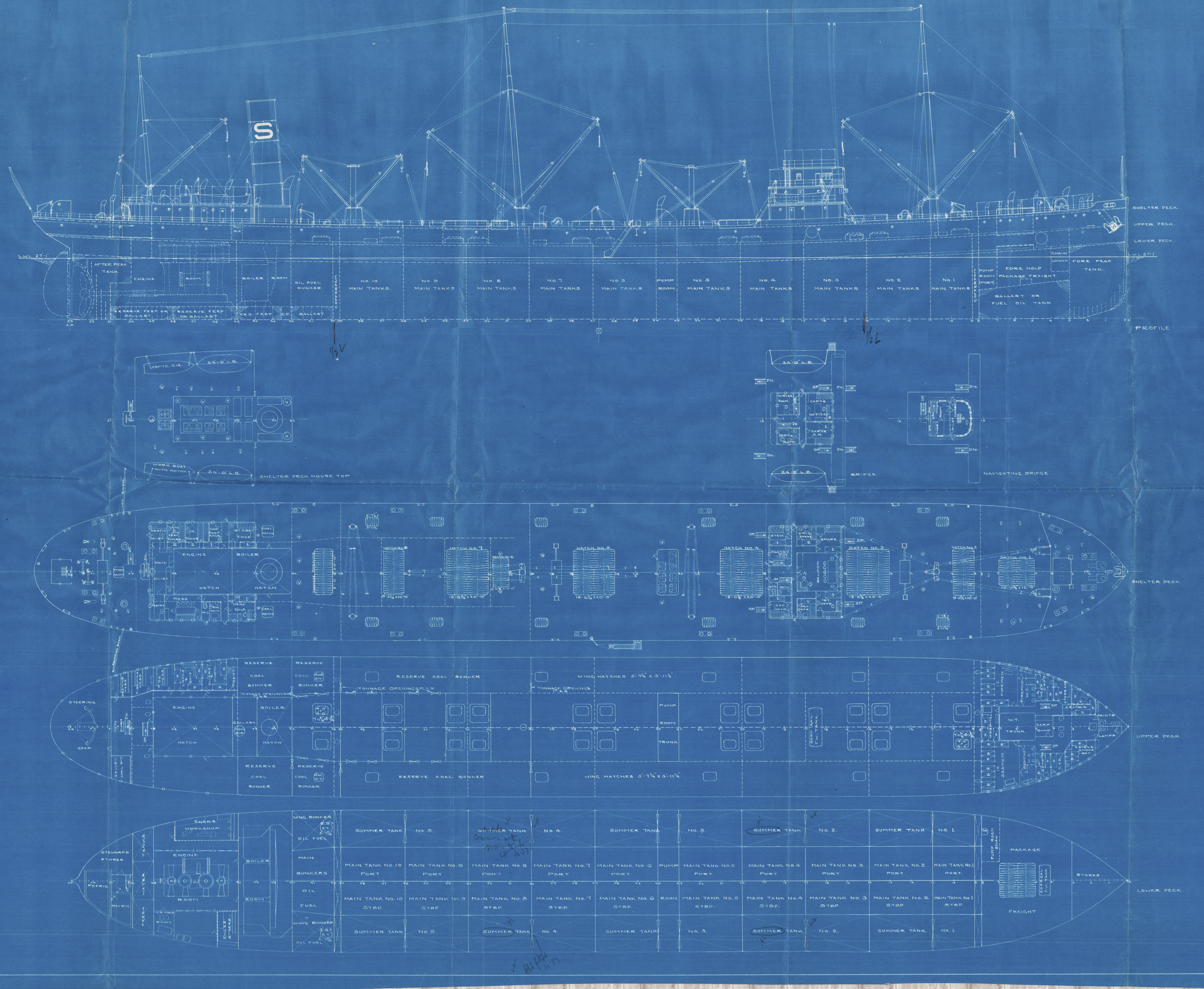
Yankee Arrow

Dis 541

[illegible] SHIPBUILDING CORP.
CAMDEN, N.J., U.S.A.
BLUE PRINT ROOM
Print No.
Made SEP 7 192
For Dept.

mail

007909-007918-0321


SHELTER DECK
UPPER DECK
LOWER DECK
LWL 27-1
AFTER PEAK TANK
ENGINE ROOM
BOILER ROOM
OIL FUEL BUNKER
COFFERDAM
No. 10 MAIN TANKS
No. 9 MAIN TANKS
No. 8 MAIN TANKS
No. 7 MAIN TANKS
No. 6 MAIN TANKS
PUMP ROOM
No. 5 MAIN TANKS
No. 4 MAIN TANKS
No. 3 MAIN TANKS
No. 2 MAIN TANKS
No. 1 MAIN TANKS
PUMP ROOM
FORE HOLD PACKAGE FREIGHT
CHAIN LOCKER
FORE PEAK TANK
BALLAST OR FUEL OIL TANK
RESERVE FEED OR BALLAST
PROFILE
1/3 V
1/2 L
24'-0" L.B.
WORK BOAT WITH MOTOR
SHELTER DECK HOUSE TOP
BRIDGE
NAVIGATING BRIDGE
ENGINE
BOILER
HATCH
MESS
HATCH No. 7
HATCH No. 5
HATCH No. 4
HATCH No. 3
HATCH No. 2
HATCH No. 1
SALOON
STEERING GEAR
RESERVE COAL BUNKER
TONNAGE OPENINGS
WING HATCHES 5'-7¼" x 3'-11¼"
PUMP ROOM TRUNK
W.T. TRUNK
LAMPS
PAINTS
STEWARDS STORES
ENGRS WORKSHOP
FRESH WATER TANKS
WING BUNKER OIL FUEL
MAIN BUNKERS OIL FUEL
SUMMER TANK No. 5
SUMMER TANK No. 4
SUMMER TANK No. 3
SUMMER TANK No. 2
SUMMER TANK No. 1
MAIN TANK No. 10 PORT
MAIN TANK No. 9 PORT
MAIN TANK No. 8 PORT
MAIN TANK No. 7 PORT
MAIN TANK No. 6 PORT
MAIN TANK No. 5 PORT
MAIN TANK No. 4 PORT
MAIN TANK No. 3 PORT
MAIN TANK No. 2 PORT
MAIN TANK No. 1 PORT
MAIN TANK No. 10 STBD.
MAIN TANK No. 9 STBD.
MAIN TANK No. 8 STBD.
MAIN TANK No. 7 STBD.
MAIN TANK No. 6 STBD.
MAIN TANK No. 5 STBD.
MAIN TANK No. 4 STBD.
MAIN TANK No. 3 STBD.
MAIN TANK No. 2 STBD.
MAIN TANK No. 1 STBD.
PACKAGE FREIGHT
STORES

S.S. "YANKEE ARROW"
S.S. "EMPIRE ARROW"
S.S. "LEVANT ARROW"
S.S. "DIXIE ARROW"

SPACE FOR LIBRARY STAMPS.

1.2 M-10 2 PREL
14 MY 21
3 5 1
4 S.Y. LINEN
17 JY 21
5 1
22 JY 21
6 MAIL 1
26 JY 21
CONT 26 1
7.8 L.B. SHIP
1 SEP 21
9 MAIL 1
7 SEP 21

468'-0" x 62'-6" x 39'-6" MLD.

FINISHED PLAN
GENERAL ARRANGEMENT
MADE BY:- T.I.C. SCALE:- 1/16" = 1 FT. DATE:- 7, JY, 21
NEW YORK SHIPBUILDING CORPORATION,
CAMDEN, NEW JERSEY, U.S.A.

DR. 260-202-A

E. H. Rigg NAVAL ARCHITECT.

007909-007918-0321

NEW YORK SHIPBUILDING COR
CAMDEN, N. J., U. S. A.,
BLUE PRINT ROOM
Print No.
Made MAR 7 1921
For Dept.

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Mail

007909-007918-0318

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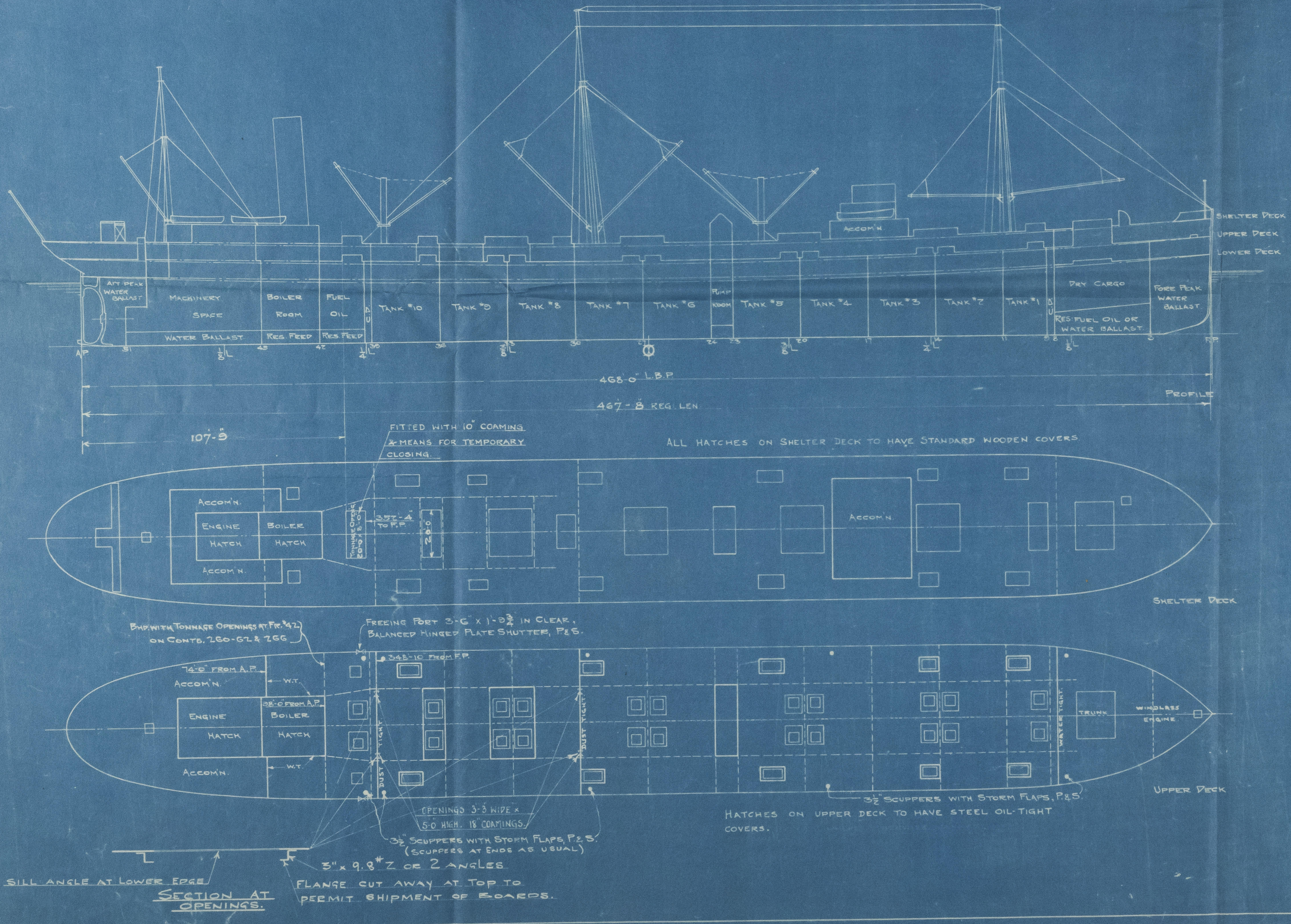
Shelter Deck
Upper Deck
Lower Deck
Aft Peak Water Ballast
Machinery Space
Boiler Room
Fuel Oil
Water Ballast
Res. Feed
Res. Feed
D.U.
Tank #10
Tank #9
Tank #8
Tank #7
Tank #6
Pump Room
Tank #5
Tank #4
Tank #3
Tank #2
Tank #1
D.U.
Dry Cargo
Res: Fuel Oil or Water Ballast
Fore Peak Water Ballast
Accom'n
A.P.
51
1/8 L
45
42
1/4 L
39
36
3/8 L
30
27
24
23
3/8 L
20
17
1/4 L
14
11
9
8
1/8 L
3
F.P.
468'-0" L.B.P.
467'-8 Reg. Len.
Profile
107'-9
Accom'n.
Engine Hatch
Boiler Hatch
Accom'n.
Tonnage Opg. 2'-0 x 8'-0
357'-4 to F.P.
2'-0
Accom'n
Shelter Deck
74'-0" from A.P.
Accom'n.
W.T.
98'-0 from A.P.
Engine Hatch
Boiler Hatch
Accom'n.
W.T.
348'-10 from F.P.
Dust Tight
Dust Tight
Dust Tight
Water Tight
Trunk
Windlass Engine
Upper Deck
Section at Openings.

Fitted with 10" coaming & means for temporary closing.

All hatches on Shelter Deck to have standard wooden covers.

Bhd. with Tonnage Openings at Fr. #42 on Conts. 260-62 & 266

Freeing Port 3'-6" x 1'-9¾ in clear, balanced hinged plate shutter, P. & S.

Openings 3'-3 wide x 5'-0 high. 18" coamings.

3½" Scuppers with storm flaps, P. & S. (Scuppers at ends as usual)

3½" Scuppers with storm flaps, P. & S.

Hatches on Upper Deck to have steel oil-tight covers.

Sill angle at lower edge

3" x 9.8# Z or 2 angles

Flange cut away at top to permit shipment of boards.

FREEBOARD PARTICULARS

Length on L.W.L.	468'-6
Beam over Plating	62'-8⅝
Beam Molded	62'-6
Width Molded at Gunwale	30'-1½
Depth to Upper Deck, Molded	32'-0
Depth to Shelter Deck, Molded	39'-6
Camber — Upper Deck 14 29/32", Shelter Deck	14 11/32
Tonnage Coefficient (Uncorrected)	.79
Thickness of Stringer	15/32
Keel	2
Registered Length	467'-8"

SHEER TABLE

Sheer at F.P.	9'-0"
" " 1/8 L from F.P.	4'-11
" " 1/4 L " F.P.	2'-4
" " 3/8 L " F.P.	0'-7
" " 3/8 L " A.P.	0'-3
" " 1/4 L " A.P.	1'-0
" " 1/8 L A.P.	2'-2
" " A.P.	4'-0 1/16

Lloyd's Length	468'-6

(Corrected to suit Lloyd's 8-Jy.'15)

Gross Tonnage	7794
Net "	4800
Under Deck "	7330
Registered Dimensions	467.66 x 62.72 x 32.0

1 5 1
2 M-10
3-6 Lloyds
30 Je 15
7 3/10 1
7 Jl-15
8 L10 1
9 5
10 5/10
8 Jl-15
11-12 M 10 2
19 Jy-16
13 S.T. Co.
28 Jy-15
1 Mail
18 F-16
15 Mail
5 Ap 16

17 F.P. 1
28 M 18
18 F.P. 1
30 M 18
19 Mail 1
2 E 21
20 Mail 1
4 F 21
21 Mail 1
4 Mr 21

FREEBOARD DIAGRAM.

Scale 1/32" = 1 Ft.   Made by J.W.T.   Date 23 Je 1915

NEW YORK SHIPBUILDING COMPANY.
CAMDEN, NEW JERSEY, U.S.A.

DR. 167-208-A.

Naval Architect

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Midship Section
New York S.B. Corp
Hull 261. S.S. "Empire Arrow"
No. 4238

Transfered to Yankee Arrow
Dis 541

NEW YORK SHIPBUILDING CORP.
CAMDEN, N.J. U.S.A.
BLUE PRINT ROOM
Print No. 56
Made 7 SEP 19
For Dept. Manf

007909-007918-0322

Framing In Fo'd Inner Bottom.
Framing In Engine Room.
"C"
Stiffener At Long' 17
"B"
Stiffener At Long' 20
"A"
Stiffener At Long' 23
Type Bulkhead.
Tie Plate.
A
B
C
D
E
F
Bottom Long' Riveting Same As #7
Bilge Keel

TABLE FOR WEBS.

Fr. No	Tie Plate	Trans Bhd Stiff "A"	Trans Bhd Stiff "B"	Trans Bhd Stiff "C"	Trans Web To Shell.	Trans Web To ₵ Bhd.
8 } 9 }	36"	36"	36"	36"		
10					41"	34"
11	48"	42"	32"	37"		
12					38"	34"
13					38"	34"
14	48"	39"	29"	34"		
15					37"	34"
16					36"	34"
17	48"	37"	27"	32"		
18					34"	34"
19					34"	34"
20	48"	37"	27"	32"		
21					34"	34"
22					34"	34"
23	48"	37"	27"	32"		
24	48"	37"	27"	32"		
25					34"	34"
26					34"	34"
27	48"	37"	27"	32"		
28					34"	34"
29					34"	34"
30	48"	37"	27"	32"		
31					34"	34"
32					34"	34"
33	48"	37"	27"	32"		
34					34"	34"
35					34"	34"
36	48"	37"	27"	32"		
37					34"	34"
38					34"	34"
39 } 40 }	36"	36"	36"	36"		

NOTE:— WEBS ON #8 & 9 AND 39 & 40 ARE TIED TOGETHER WITH SWASH PLATES.

RIVETING

			Dia. Of Rivet	Max Sp. Dias.
Trans.	All Rivets Below Upper Deck (Except Wing Oil Sp.)		7/8"	—
	" " Above " " (And In " ")		3/4"	—
	Clip ∠s To Trans.		Dia. Above	5
	Face ∠s " "			6
	Butts Of Trans Pltg.		"	4
O.T. Bhds.	Seams & Butts Of Pltg		7/8"	3½
	Boundry ∠s		7/8"	5
	Horizontal Stiffs 9-10-11-12		7/8"	5
	Other " "		7/8"	6
	Face ∠s To Vertical Stiffs		7/8"	6
	Vertical Stiffs To Bhds		7/8"	4
	Boundry ∠s In Stiffs		7/8"	4
₵ Bhd.	O.T. Throughout, Seams And Butts.		7/8"	3½
	Boundry ∠s Trans & ₵ Bhds.		7/8"	5
	Trans Frames To ₵ Bhd		7/8"	5
Ex. Tr. Bhd	O.T. Throughout. Butts Of Pltg		3/4"	3½
	Boundry ∠s	Stagger.	3/4"	5
	Trans Bhd ∠s		3/4"	5
	Web Stiffener Clip (Both Legs)		3/4"	5
	Longitudinals		3/4"	6
Floors	Boundry & Clip ∠s To W.T. Floors		7/8"	4½
	" " " " O.T. "		7/8"	5
	Vertical ∠s Connecting Floors To Side Girders		7/8"	7
Inner Bott.	Seams & Butt Laps		7/8"	4
	Boundry ∠s To O.T. Bhds		7/8"	5
	" " " Shell O.T.		7/8"	5
	" " " " W.T.		7/8"	4½
	N.W.T. Floors To I.B.		7/8"	5
	W.T " " "		7/8"	4½
	O.T " " "		7/8"	4½
	Inner Bottom O.T. In Bunker, W.T. In E & B Space		—	—
Lower Dk.	O.T. 3/5 L - W.T. Elsewhere		—	—
	Seams & Butts Pltg. O.T.		3/4"	3½
	" Of " W.T.		3/4"	4½
	Butts " " W.T.		3/4"	4
	Boundry ∠s O.T. & W.T.		3/4"	5
	" " & Longls N.W.T		3/4"	6
	Connection To Trans		3/4"	5
	Butts Of 22# Pltg		7/8"	3½
Upper Dk.	O.T. 3/5 L - W.T. Elsewhere.		—	—
	O.T. Butts Of 22# Pltg.		7/8"	3½
	O.T. " " 22# " To 18#		7/8"	3½
	Other O.T. Butts & Seams		3/4"	3½
	W.T. Seams Of Pltg.		3/4"	4½
	W.T. Butts Laps "		3/4"	4
	Stringer ∠ To Deck.		3/4"	4½
	Boundry ∠ " "		3/4"	5
	Trans To Deck		3/4"	5
	Longls " "		3/4"	6
	₵ Bhd ∠ To Deck		7/8"	5
Shelter Dk	W.T. Throughout		—	—
	Boundry ∠s	3/5 L Ends	7/8" 3/4"	5
	Connection To Trans	3/5 L Ends	7/8" 3/4"	5
	Seams Of Deck Pltg	3/5 L Ends	7/8" 3/4"	4½
	Longls To Deck	3/5 L Ends	7/8" 3/4"	6
	Q.R. Butt Laps & T.R.B.L.		1"	4
	Stringer ∠ To 32# Pltg.		1"	4½
	" " " Other "		7/8"	4½
Shell.	Lower Deck Str. ∠ To Shell		7/8"	5
	Upper " " ∠ " "		1	5
	₵ Bhd ∠s To Keel		1 1/8	5
	Bilge Keel To Shell		7/8"	5

To Class ✠ 100 A1 At Lloyds.

Longl Framing — To Carry Oil In Bulk.

PRINCIPAL DIMENSIONS.

Length Over All	485'-0"
" Lloyds	468.5'
Beam, Molded	62'-6"
Depth To Shelter Deck, Molded.	39'-6"
" " Upper " "	32'-0"
" " Lower " "	24'-6"

LLOYDS NUMERALS

Transverse No.	9450
Longitudinal No.	44273
Equipment No.	47090

$\frac{L}{D}$ = 11.86

ANCHORS, CHAINS & LINES.

1 Bower Anchor Stockless	10,000#
1 " " "	8420#
" " "	7735#
1 Stream " Stock Ex Stock	2635#
1 Kedge " " " "	1232#

300 Fathoms 2½" Stud Chain

120 " 5¼" Wire

130 " 6" "

8" Hawser & Warping (2 Each Of 100 Fathoms Each)

Stem 11" × 3"

Propeller Post 11" × 9"

Rudder Post 9" × 9½"

" Plate 47.3# Pintles 6¾" Dia.

" Head 14¼" Dia. Speed 11 Knots.

Frame Spacing 24" In Peaks 28" Under Engines.

Transverse Frames 9'-4" In Oil Spaces

Framing In Peaks 8" × 3½" × 19.3# B.A. Web Pl. 20.4#

36-41 S-Y 6
27 JY 20
42 MAIL 1
1 S 20
43 MAIL 1
21 O 20
44-46 MAIL 3
25 O 20
CONT 260/2
47-52 S-Y 6
5 JA 21
53 ROES 1
26 A 21
54 MAIL 1
19 MC 21
28-29 MAIL 2
30 JA 20
CONT 260-2
30 S-Y 1
11 F 20
CONT 260/2
31-33 S-Y 2
12 F 20
33 MAIL 1
26 AP 20
34 MAIL 1
12 JA 20
35 MAIL 1
6 JA 20

55 MAIL 1
26 JY 21
56 MAIL 1
7 SEP 21

20 GROESBECK 1
7 OCT 18
21 Y.M.C.A. 1
31 OCT 18
CONT 174/5
22-23 MAIL 2
8 JA 19
CONT 174/3 174/5
24 DEBUBEL
8 JA 19
CONT 190
25-26 MAIL 3
24 J 19
27 VAND MAIL 1
4 JE 19

FOR CONT 175 1
10-11 MAIL 2
4 M 18
12 MAIL 1
12 M 18
13-14 F.P. 2
4 AP 18
15 LLOYDS 1
8 AP 18
16-17 F.P. 2
7 MAY 18
CONT 174/5
18 MAIL 1
2 MY 18
19 MAIL 1
3 MY 18

LIB 1
2 5 1
3 M/10 1
4 S/10 1
2 F 17
5 MAIL 1
8 AG 17
6 MAIL 1
16 OC 17
7 MAIL 2
28 D 17
8 MAIL 1
24 JA 18
9

NEW YORK SHIPBUILDING CORP.
CAMDEN N.J. U.S.A.
BLUE PRINT ROOM
Print No. 56
Made 7 SEP 1921
For Dept. mad

FINAL PLAN.

MIDSHIP SECTIONS AND TYPE PLANS

Scale ½" = 1 Ft Made By L.D.H. Date 25 Jan 17

NEW YORK SHIPBUILDING CORPORATION
CAMDEN, NEW JERSEY, U.S.A.

DR-167-201-D

007909.007918-0322

NEW YORK SHIPBUILDING CORP.
CAMDEN, N.J. U.S.A.
BLUE PRINT ROOM
Print No.
Made Fe 2 19
For Dept.

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Mail

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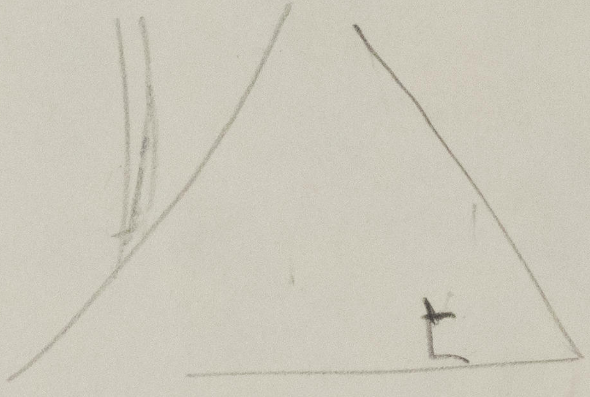

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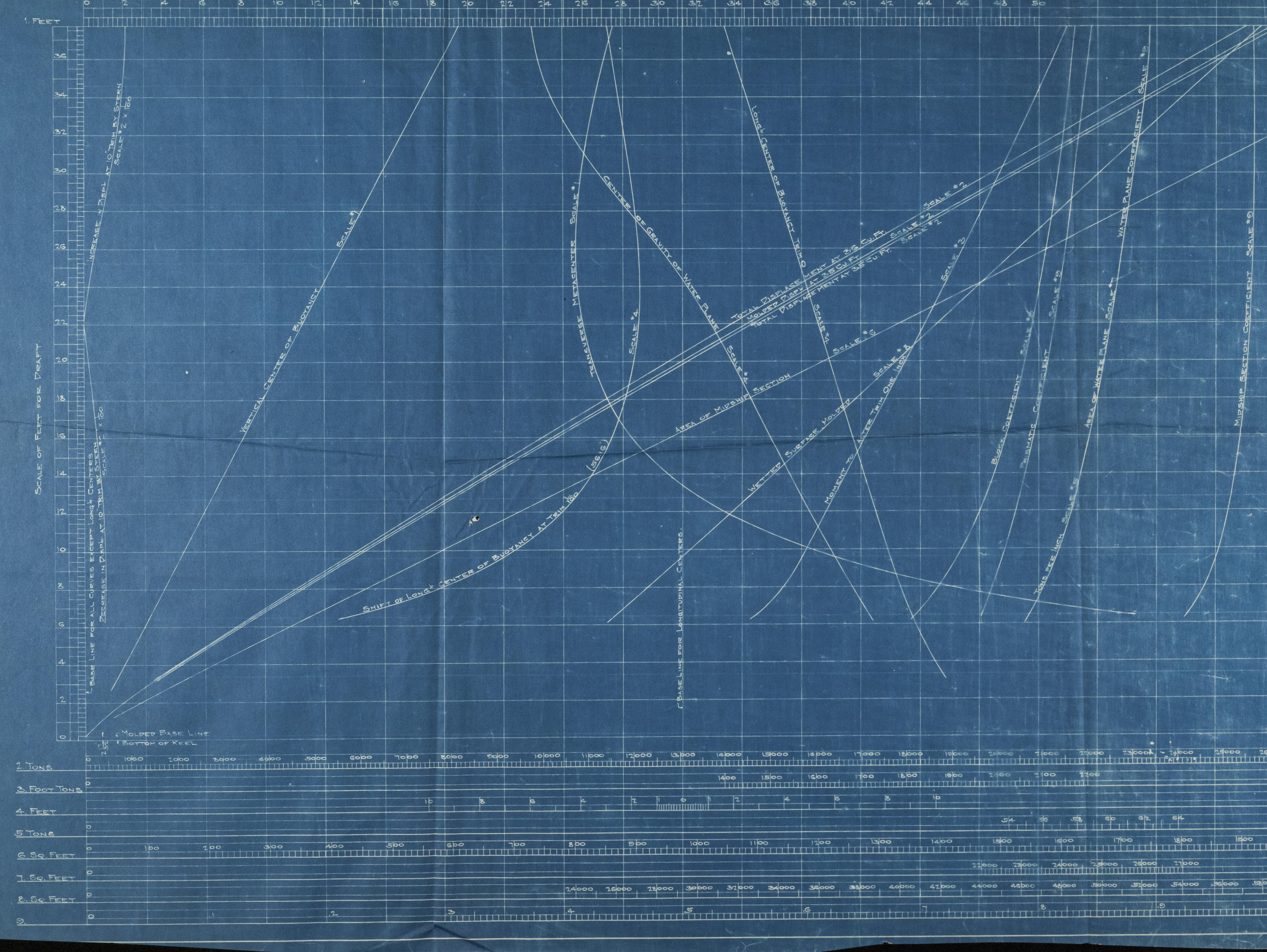

19-16 F.P. 2
27 May 18
Cont 17 4 5
19-20 Mail 2
8 Jy 19
Cont 9 0
21-22 Mail 2
24 Jy 19

23 Mail 1
3 Jy 20
24 Mail 2
7 Jy 20
25 Mail
26 Mail 2

CONTRACT #167.

Length bet. Perps.	L = 468'-0"
Length Overall	485'-2¾"
Breadth, Molded	B = 62'-6"
Depth to Upper Deck, Molded	H = 32'-0"
Draft, Molded	T = 26'-3 15/32"
Keel below Base Line	0'-2 17/32"
Draft, Keel	26'-6"

SCALES.

1. Draft	1 Inch = 3.125 Feet.
Vertical Centers	1 Inch = 3.125 Feet.
Trans. Metacenter	1 Inch = 3.125 Feet.
2. Displacement	1 Inch = 1305.8 Tons.
3. Moment to Alter Trim	1 Inch = 130.58 Ft. Tons.
4. Longitudinal Centers	1 Inch = 2.34 Feet.
5. Displ. per Inch Immersion	1 Inch = 3.482 Tons.
6. Area of Midship Section	1 Inch = 97.6563 Sq. Feet
7. Area of Water Plane	1 Inch = 1462.5 Sq. Feet.
8. Area of Shell Surface	1 Inch = 2925 Sq. Feet.
9. Coefficients	1 Inch = 0.05

LOADED CONDITION.

Mean Draft to Bottom of Keel	26'-6"
Thickness of Keel	0'-2 17/32"
Mean Draft, Molded	26'-3 15/32"
Displacement, Molded	17750 Tons.
" of Shell	112 "
" , Total	17862 Tons.
Displ. per Inch Immersion	60.7 Tons.
Increase of Displ. 10" Trim by Stern	8.0 Tons.
Block Coefficient	0.8081
Midship Section Coefficient	0.9815
Prismatic Coefficient	0.824
Water Plane "	0.873
Area of Midship Section	1612 Sq. Feet
" " Wetted Shell Surface	46350 Sq. Feet.
" " Rudder & Bilge Keels	1180 " "
" " Total Wetted Surface	47530 Sq. Feet.
Long'l C. of B. Ford. of ½	4.346 Feet.
Moment to Alter Trim One Inch	1930 Foot-Tons.
Trans. Metacenter above B.L.	25.688 Feet.
Area of Water Plane	25530 Sq. Feet.
Center of Gravity of W.P. Aft of ½	1.193 Feet.

12-13 Mail 2
28 D 17

Standard Water Lines are in Red.
Use Tracing when referring to same.

16 Mr 18
15-16 F.P. 2
28 Mr 18

1·2 15·2
18 Ag 16
3
30 Ag 16
4-5 Mail
7-5 16
6-7 Mail
6-D 16
8 Mail 1
16 My 17
9 Mail 1
23-Ag-17
10-11 Mail 2
11 N 17

STANDARDIZED CURVES OF DISPLACEMENT, AREAS, CENTERS AND COEFFICIENTS.

DRAWN BY H.L.S. TRACED BY J.W.T. DATE 17 MAY, 1916.

NEW YORK SHIPBUILDING COMPANY,
CAMDEN, NEW JERSEY, U.S.A.

DR. 167-204-A

E. F. Rigg NAVAL ARCHITECT.